

AK

Notice of Allowability	Application No.	Applicant(s)	
	10/736,947	CHU ET AL.	
	Examiner	Art Unit	
	John P. Fitzgerald	2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 26 September 2005.
2. ☒ The allowed claim(s) is/are 1,3,5-14,16,21 and 22.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Allowable Subject Matter

1. Claims 1, 3, 5-14, 16, 21 and 22 are allowed over the Prior Art of record.
2. The following is an examiner's statement of reasons for allowance: As to claim 1, the primary reasons for allowance in the inclusion of a method of monitoring coolant within a cooling system including the method steps of employing at least one pressure transducer obtaining multiple pressure measurements related to an amount (i.e. level) of coolant within an expansion tank of the cooling system, the determination of a rate of volume change (either increasing or decreasing) due to a cooling system defect (i.e. leak); automatically determining an immediacy of action to be taken to service the system responsive to a comparison of a magnitude of the rate of volume change of coolant within multiple leak rate set points, determining whether or not the volume is increasing or decreasing; obtaining successive pressure measurements at a known time interval to determine the rate of volume change of the coolant; and determining whether the magnitude of rate of volume change is within a first leak rate set point, and if so, continuing to monitor until a second leak rate point is compared and signifying an increasing volume of coolant and the signaling for corrective action to address the increase in the amount of the coolant.

As to claim 21, it includes many of the method steps of claim 1, however adds the terms/method steps of determining if the rate is greater than a preset maximum allowable related to the first leak set rate point and the determining if a fast coolant leak exists related to the

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second leak rate set point and the actions of initiating a leak isolation protocol and an automatic shutting down of the cooling system.

As to claim 9, the primary reasons for allowance of the claim is the inclusion of the elements of a system for monitoring coolant within a cooling system including at least one pressure transducer, means for determining a rate of change of volume of the coolant with multiple pressure measurements; means for determining an increase or decrease of the coolant due to a system defect; means for determining an immediacy of action based on multiple predefined leak rate set points; and wherein the means for employing the multiple pressure measurements includes differential pressure measurements on the amount of the coolant within the expansion tank, each of the differential pressure measurements taken between a pressure in a liquid coolant portion of the expansion tank less pressure in a non-liquid portion of the expansion tank. The inclusion of these particular method steps and/or limitations within the claims was not reasonable found in the Prior Art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Fitzgerald whose telephone number is (571) 272-2843. The examiner can normally be reached on Monday-Friday from 7:00 AM to 3:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams,

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can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JF

10/04/2005



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